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Annual Oration

ART and Prejudice

Royal Victoria Hospital, Thursday 5th October 2006

Dr Raymond D Maw

Thank you Professor Adgey for your kind words of introduction. For many years I have sat in this audience thinking this must be one of the most stressful presentations of an Orator's life - I was absolutely right. Such was my anguish when you invited me to be this year's Orator that my first reaction was to say to myself 'how on earth can I get out of this?' While considering my response I turned to Professor Richard Clarke's excellent "History of The Royal Victoria Hospital"[1]. Running my eye down the rather daunting list of previous Orators, I spotted the name of your late, distinguished, if somewhat eccentric colleague Professor JF Pantridge, The entry for the year 1971 reads 'no oration given' Prof JF Pantridge declined to give the Oration. The only other similar entry was in 1910 when Sir William Whitla also declined to give the oration. As a simple GU Medicine physician I could not have aspired to join such an exclusive club!

I have to begin with an apology to those of you mislead by my title who came to hear an erudite lecture on Art, I wish I was capable of delivering such a lecture but unfortunately it is not the case but I would like to dwell for a moment on the Arts and Environments project on the Royal Hospitals site, many of the images of which were shown as you assembled. The project was established in 1989 by Michael Swallow, former consultant neurologist in this hospital. It was my privilege to take over as Chairman in 1993 a position I have enjoyed since then, although I suspect the 'Dear Tony' letter is long overdue. The Arts Council, Hospital Trust and Chief Executive have been resolutely supportive but as my theme today is prejudice there are two particular ones the project has been subject to. Firstly "the money could have been spent on equipment or staff" we hear – in fact none of the money spent in this Project could have been utilised in that way, coming from government sources such as the National Lottery, private foundations and Trust Funds not available for clinical purposes. Even if that had not been the case I would have considered it money well spent as research into similar projects has shown the benefit to both patients and staff[2]. The other prejudice has been persons second guessing how others are likely to respond to particular works of art. Usually staff concerned how patients or their colleagues would react to pieces possibly construed as too difficult or however tangentially, depicting death or deformity.

Fig 1. Janet Mullarney - 'Touch'

An example is this sculpture piece by Janet Mullarney in the entrance to Ward 6B, to me this depicts a person in a sort of transcendental state, perhaps ill, perhaps not certainly an ethereal piece. To our artist in residence it depicts suffering and death but we agree to differ (Fig 1). My own view is that hospitals should not deny their purpose; they are places where people come to be cured but also to suffer and die. Works of art have always been valuable for contemplation and reconciliation of life's great tragedies and if they are not challenging and controversial they are not worthwhile. Undoubtedly the hospitals are now the best endowed in Ireland and among the best in the British Isles and on those bleak mornings we all have coming into work it gives me immense pleasure to see what has been achieved. I would encourage you all especially those students coming into the hospital to take note and hopefully be enriched by the many different pieces around you.

Most of you will of course have guessed that the ART in my title is of course an acronym for antiretroviral therapy, a saga which I feel incredibly privileged to have had a very small part in. I will also exercise the Orator's prerogative and paint a slightly broader picture of Sexual Health, where we have come from, where we find ourselves now, and a little bit about the future.

History is always a good place to begin from, especially as it can show us how we continually fail to learn some fairly obvious lessons.

In the year 1492 Christopher Columbus famously discovered the West Indies and set the scene for the invasion of The Americas bringing European culture, Christianity,

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unbelievable cruelty and disease to the indigenous populations. Infections to which there was no herd immunity such as measles, influenza and whooping cough along with torture and execution set the scene for what has been described as the greatest genocide in human history, leaving 95% or 100 million of the native population of the Americas dead[3]. When we come to consider the social phenomena currently associated with HIV, this should not be forgotten. In return for this the invaders brought back sugar, chocolates, tomatoes and syphilis to which there was no herd immunity, all of which have profoundly changed our culture and history. Many of his crew became infected with syphilis. In Barcelona the physician Ruiz Diaz de Isla identified the acquisition of this new disease as being related to Colombus and his crew having sex with native women and although the concept of infectious agents was not understood, its subsequent onward transmission to waterfront prostitutes and their clients in Barcelona was indeed seen as divine retribution for immorality[4], a prejudice that plagues the management of sexually transmitted infections (STI's) to this day.

Fig 2. Durer -'Syphilitic Man'

This terrifying disease depicted here by Durer with ulcerating lesions of the genitals, erupting pustular lesions of the skin and often rapid progression to death, spread like wildfire (Fig 2). In 20 years it spread through Europe and Asia each country blaming its neighbour along the way. Today we can clearly recognise the epidemiology now classically associated with all sexually transmitted infections, that is; conflict, social upheaval and travel. In those days, war, trade and colonisation, in our day commerce, economic migrants and EasyJet plane loads looking for easy sex tourism.

As we all know many famous and infamous persons became infected. The disease in many cases was said to have contributed to their genius or to their evil doings. Because of the strong prejudice associated with having the Great Pox, infection can sometimes only be inferred from medical records, often their physicians, friends and families went to extraordinary lengths to conceal the true nature of their disease. This of course is what we would today call medical confidentiality, which is fair enough. Among those who may have been victims were Goya, Manet, Van Gogh, Schubert, Abraham Lincoln, Adolf Hitler and of course our own Oscar Wilde and perhaps James Joyce[5].

In the mid 19th century the race was on to find the cause of syphilis and its natural history. The study of syphilis and research for a cure became a respectable and challenging branch of medicine. Ricord in Paris, physician to the great and the good famously said 'in the beginning God created the heavens, the earth, man and the venereal diseases.' He carried out inoculation experiments on over two thousand unsuspecting subjects - mostly felons, prostitutes, servants and medical students. He could hardly have chosen more able groups to facilitate onward transmission!

His pupil Albert Fournier (of the eponymous disease Fournier's gangrene) estimated 20% of adults in Paris were infected. He presaged modern medical ethics when he advocated informed consent in these experiments[6].

Despite Fournier's admonition, physicians as we shall hear continued to experiment on uninformed humans. He also advocated the taking of a sexual history as being an integral part of the medical history, something still ignored today even when it is an essential part of the diagnostic process.

It was only in the early 20th century that *Treponema pallidum*, a member of the genus *Spirochaetae* was identified and a blood test for diagnosis was found. Syphilis was then one of the commonest causes of death and gonorrhoea the commonest cause of blindness due to neonatal ophthalmia. In the First World War the problem for the allied forces was a huge one, with the US forces losing as many fighting days to STIs as to combat injury and other communicable diseases[7]!

The British Army decided to have a health education campaign for its soldiers going on leave to Paris. The following pamphlet was issued:-

'In this new experience you may find temptation in wine and women. You must entirely resist both temptations and while treating all women with perfect courtesy you should avoid any intimacy. Do your duty bravely; Fear God, Honour the King.'

The result was that of the first five thousand soldiers returning from leave, 20% subsequently developed an STI. Different action was needed! Soldiers at risk returning to camp were given urethral irrigation within 24hrs, of the subsequent three hundred thousand, only 3% became infected[8]. A good example of a pragmatic public health response to the problem. A lesson still to be learnt by many preachers, politicians and, I'm afraid, some physicians.

With a mounting public health crisis the government appointed a Royal Commission in 1916 under Sir William Osler to advise on what should be done[9]. One piece of evidence presented was a letter from a doctor to a patient who had pleaded for help with the pains of tertiary syphilis, and can be paraphrased as follows. 'The disgraceful disease from which you are suffering is entirely your own fault. I will certainly not come to your assistance and I hope you continue to suffer from it for many years to come'. This was typical of the attitude of many doctors of the day. The result in 1917 was the founding of the medical speciality of venereology, the establishment of Special Clinics usually housed in grim accommodation, the statutory right to confidentiality, free diagnosis and treatment, again leading ethical thinking. Unfortunately prejudice against those with STIs soon led to the stigmatisation of patients and those who worked in the clinics. Patients only attended if they were desperate and it was no longer an esteemed career to pursue.

A social paradigm of the day would have painted a picture of a society where in the middle classes, at any rate, it was permissible for young men to have sexual experience before marriage (and after in many cases) usually with a prostitute, or on his travels in Europe. For women pre-marital sex was social death and they awaited the lottery of the chastity or otherwise of their future husband. I still vividly recall one of the first tertiary syphilis patients I dealt with in my career.

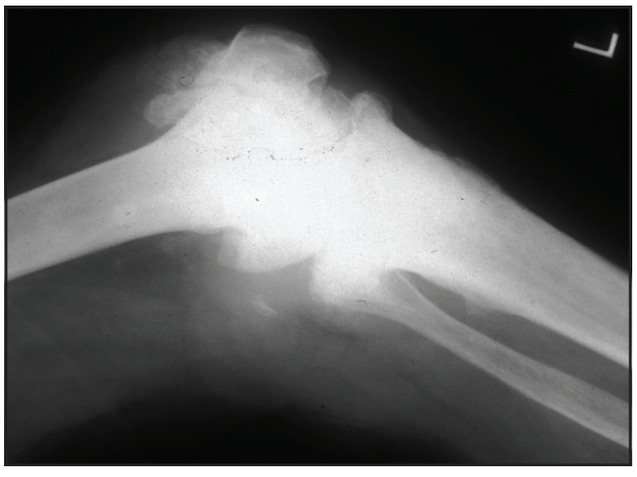

Fig 3. X-Ray of Charcot's Knee Joint

A 'society woman' then in her seventies - figure 3 is an X-Ray of her Charcot's knee. Totally disabled by Tabes Dorsalis she recounted with deep bitterness how shortly into her marriage she attended the doctors' surgery with her husband every day for weeks. It transpired he was receiving injections for syphilis, never a word was said to her. This was a formative experience for me. A parallel today would be a woman being treated for pelvic inflammatory disease (PID) with no sexual history being taken and no partner notification leading to re infection and a greatly increased risk of infertility. This social paradigm is still very much the case today in many countries outside the liberal West and one which leads to a lot of denial as to sexual health problems.

Although STIs have played a central role in the development of medical ethics, one of the most infamous episodes in 20th century Western medicine was the study of the natural history of syphilis in Black Americans. Set up in 1932 in the USA, the so-called Tuskagee Study. The population studied was that of black Americans in Alabama, where the estimated prevalence of infection was between 25 to 36%. Approximately 400 cases were recruited and 200 controls. The subjects were to be followed up without any form of treatment, to record their subsequent medical events. The full extent of the malfeasance was not exposed until 1966, when a conversation overheard in a canteen by the young investigator Peter Buckson prompted him to look into the conduct of the study. When he presented his conclusions he was ostracised by his fellow workers at the CDC Atlanta. It was only by going to the press in 1972 that the scandal became public. A Senate hearing in 1973 under the Chairmanship of Senator Ted Kennedy heard how participants were never told of their diagnosis; draft boards were contacted to prevent participants being enlisted in the military, thus having access to treatment. Despite the discovery of penicillin in the 1940s patients were not offered this. Public health service doctors were baffled when they were compared to Nazis in the press. Eventually the survivors received $10 million in compensation. A public apology was finally made by President Clinton in 1997 to the then remaining 8 survivors[10]. It is commonly accepted that a similar study would never have been contemplated by the investigating team if the participants had been white Americans, a clear case of racial prejudice in the context of sexual health.

The *Treponema pallidum* genome was sequenced in 1998[11] giving rise to some interesting theories as to the organism's antecedents. Enthusiastic evolutionary biologists have proposed that the spirochaete inhabited the air tight gut of cockroaches 100 million years ago and the wriggling spirochaete seen under the microscope are the ancestral inspiration for the whip like structures that provide locomotion to spermatozoa or even axons and dendrites of the brain are descended from spirochaetes. All of this of course gives rise to some fascinating speculation as to what effect HIV may yet have on human evolution.

It is salutary to review the time frame from the appearance of Syphilis in Europe to where we find ourselves today (Table I). After centuries of bizarre and harmful treatments the discovery of penicillin in 1942 provided a cure with few side effects. Unfortunately there remains no vaccine against the infection, most likely due to lack of any financial incentive for the pharmaceutical industry.

TABLE I

'Milestones' in Syphilis

Milestones in Syphilis

- Colombus 1492
- Mercury 1497
- Potassium Iodide 1834
- *T Pallidum* identified
- WR test discovered
- Arsenical Salvarsan 1909
- Penicillin 1943
- Genome project 1998
- Ongoing outbreaks

No resistance to penicillin has been described yet the disease still haunts us today with fresh outbreaks across Europe in the last 6 -7 years. In Northern Ireland we would hardly have seen a handful of cases in the 1990s but since 2001 we have seen over 200, now seeing more than when I started in my specialty thirty years ago.

So let us turn our attention to sexual health issues today that may be of interest to you and tell us something about our society and the world we live in and some of the prejudices that may blow things off course.

We come at last to the ART in my title. AIDS was first recognised in 1981 from an outbreak in gay men in the USA of *Pneumocystis* Pneumonia, a disease usually associated with immune suppression[12].

The first acronym for what we now call AIDS was in fact GRID, Gay Related Immune Deficiency Disorder. I presented this new syndrome at our 10 year medical graduation reunion in 1983 and made a few observations which still seem apposite. Of course gay men felt further discriminated against with the advent of this plague. There was a lot of indignation to what was portrayed as the gay lifestyle driving this new disease. It highlighted for me the centuries of discrimination suffered by men and women for their sexuality which is something which I believe they can do little about. I suggested that if we had gathered together a group of mad behavioural scientists to design a bizarre sociological experiment they would have done the following: taken a group of people and outlawed them on the basis of their sexual behaviour, alienate them from religion, family and society, not able to form loving relationships, ensuring they developed a surreptitious subculture and then after centuries we would have legalised this behaviour and then we would have been surprised that their behaviour did not fit with societies norms! The link in the Western mind of HIV/AIDS with gay men has continued to be an obstacle on many levels. But what was happening of course was the unfolding of the most dramatic epidemic with scientific and social responses to match.

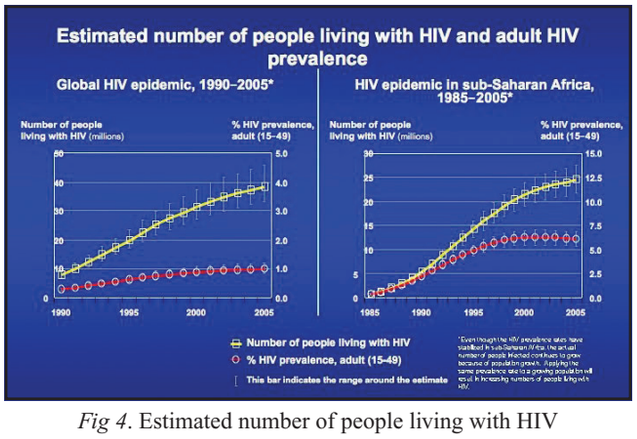

Fig 4. Estimated number of people living with HIV

The figures are common knowledge with now an estimated 40 million people worldwide living with HIV and 1.0% prevalence in the 15-49 year old age group (fig 4). The epicentre has been Sub-Saharan Africa with 25 million persons living with HIV and an overall prevalence of about 6% in 15 – 49yr[13]. The impact on life expectancy has been dramatic with all the health care gains achieved over previous decades wiped out. New epidemics are being recorded all over the world with, for example, Russia and the Ukraine rapidly accumulating new cases, India being forecast to overtake Africa with total number of cases in the next five years and the Chinese now admitting to over a million persons infected.

In the UK the major epidemiological shift has been the rise in heterosexual diagnoses with the Rubicon having been crossed in 1996 when for the first time heterosexual diagnoses overtook those in gay men (fig 5)[14]. This gap has continued to widen. When these figures are analysed more closely the heterosexual cases have been driven principally by diagnoses in persons from Sub-Saharan Africa and closely linked to the social and economic migration we are now familiar with.

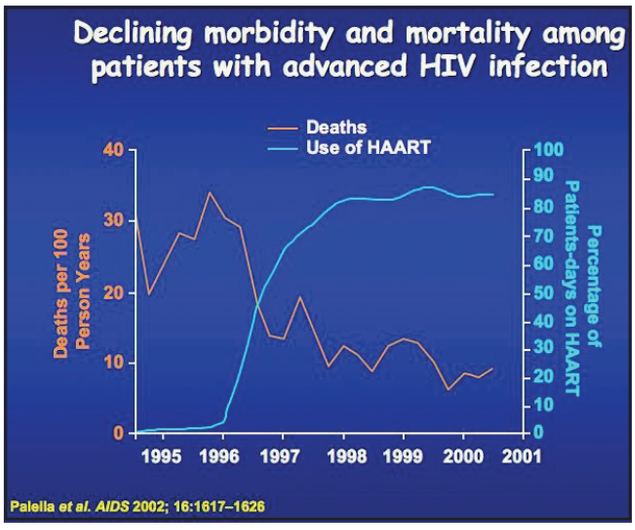

Fig 5. Survey of prevalent HIV infection diagnosed (SOPHID) data 1985 - 2003 (ref 14)

Our own experience locally has typically lagged behind Great Britain. But in 2003 a major shift occurred. Up until then we could confidently have forecast that we would have around 20 odd new cases per year with 60% being in gay men. In 2003 only 25% were in gay men and we saw the emergence of new heterosexual cases linked to persons from Sub-Saharan Africa, South East Asia and also their local partners. Last year we had 72 new registrations. All of this is being absorbed into our service with no extra support. Our cohort of over 300 patients is managed by 4-6 medical sessions per week plus our Nurse Specialist now having to devote almost all her time to these patients.

With the discovery of the virus in 1983 this time the nationalism was claiming the credit for the discovery of the virus. Recently the origin of the virus has been identified. It seems to have entered the human chain in the mid 20th century as a mutant of a virus carried by our cousin the chimpanzee *Pan troglodytes* in South Cameroon[15].

The test for detection in the next year brought with it new issues of medical ethics which still many doctors fail to understand. All I will say is that any practitioner dealing with persons with HIV should be familiar with the GMC

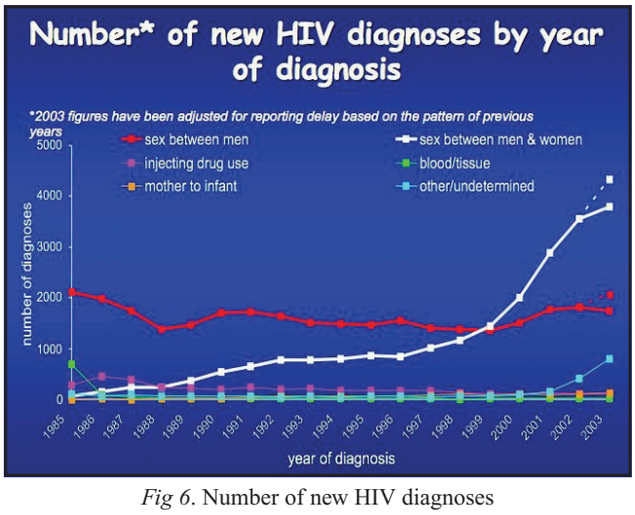

Fig 6. Number of new HIV diagnoses

guidelines on HIV testing. We continue to see medical and social disasters when these are not adhered to.

In 1987 we moved into the era of therapy at first limited to one active drug called Azidothymidine, then dual therapy and in 1996 we entered the era of Highly Active Anti Retroviral Therapy (HAART) using a combination of three or more drugs. The goal of this therapy is to suppress viral replication and allow the immune system to regenerate.

The remarkable success achieved is demonstrated by the fall in AIDS related deaths despite ever increasing numbers of new HIV diagnoses coinciding with the implementation of successful therapy in 1996 (fig 6)[16]. Yet less than 10% of the world's population have access to antiretroviral therapy, a situation finally being addressed by the world community but all too slowly.

Fig 7. Munch - 'The Inheritance'

There are of course problems, the major ones being compliance, over 95% compliance being needed for continued suppression. Resistance can rapidly emerge if the person is inadequately suppressed although the development of resistance assays can guide us to suitable alternative drugs. Side effects principally metabolic and GI tract related can make treatment unbearable for the patient.

The other remarkable aspect of care has been our ability to prevent mother to child transmission. This picture by Munch portrayed the tragedy of congenital syphilis (Fig 7). Today read HIV, yet another parallel between the two diseases. With early detection of infection we have seen transmission rates of 15 to 30 percent can be cut to less than 1% using antiretroviral therapy and Caesarean section. Our multidisciplinary team has managed about 20 pregnancies with to date no infant having become infected. Once again therapy is only available to a fraction of the affected persons worldwide. Both of these advances have recently been calculated for the USA to have saved 2.8 millions of years of life and over a hundred thousand in neonates[17].

Prevention of course must be the long term goal. Over 80 vaccines have been tested with as yet no success in humans although we are continually tantalised with reports of effective vaccines preventing infection in primates.

One of the most significant developments is likely to be vaginal microbiocides to neutralise HIV at the time of intercourse. In many countries the prevailing culture gives women little say in the control of their sexual health often making it impossible to negotiate condom usage. With an effective microbiocidal gel or cream the woman would have more control over her own destiny. Placebo controlled double blind studies are in progress in Africa. Women being infected with HIV have guaranteed access to antiretroviral therapy. Some have suggested this could be another Tuskagee but with informed consent, access to treatment and termination of the studies if efficacy is proved I don't think these parallels are justified. The truly inspiring list of achievements in only 25 years as opposed to the 500 year history of syphilis, are outlined in Table II.

TABLE II

'Milestones' of the HIV epidemic

Year	Advance
1981	Cases of *Pneumocystis carinii* pneumonia and Kaposi's sarcoma in the United States
1983	Epidemiology defined
1983	Discovery of the virus. First cases of AIDS in the United Kingdom
1984	Development of the antibody test
1987	Zidovudine approved as monotherapy for HIV
1996	Dual therapy
1996	Protease inhibitors
1998	Non nucleoside reverse transcriptase inhibitors Viral load assay
2002	Fusion inhibitors

To briefly look at other aspects of sexual health indicators. Human Papilloma Virus (HPV) is the cause of the humble wart and now known to be the commonest sexually transmitted infection. It is estimated that at least that at least 75% of the sexually adult population will carry one or more so called genital HPV type in their lifetime[18]. We know certain types of the virus are the cause of squamous cell cancer of the cervix, vulva, penis and anus. This very month a vaccine is being licensed which can potentially prevent a large proportion of cervical cancer[19]. For maximum benefit it needs to be given to girls before they start having sex. We will face an enormous task to implement a successful vaccine programme in the face of all the prejudices this is likely to raise. There is also the epidemic of chlamydia trachomatis with the inexorable rise in new cases with currently 12% of all new attendees at our clinic carrying this infection with all the implications that has for sub fertility.

It will not come as a surprise to you that I want to present all

too briefly the situation for the GUM service in N Ireland. The pressures throughout the UK have been well publicised with inexorable rises in new attenders and diagnoses in the clinics resulting in unacceptable waiting times. The situation in NI is no different with the number of first time ever attenders at the Royal Victoria Hospital GUM clinic topping 7,000 last year with an additional 5,000 re-attenders. When I first started in 1976 it was 1,600 new patients per year. Our non urgent appointment wait is now 6 weeks which has clearly been shown to lead to morbidity and spread of infection. We have precious few more medical staff and we have coped by ruthlessly 'modernising' i.e. changing working patterns, cutting reviews and recruiting the assistance of our nursing colleagues although they cannot meet their full potential because of lack of physical space and numbers.

A crude comparator for service provision but a telling one is the provision of consultants in a specialty. The Royal College of Physicians recommendation for our specialty is one consultant per 120,000 of population, this aspiration is not met in any of the four countries in the UK but we are by far the worst provided for with less than one per 500,000 leaving large geographical areas deprived of services. Recognising the situation following the Choosing Health White Paper in England a target was set of 2008 for ensuring 48 hour access[20]. There have been two significant investments in England to support GUM services. The first, in 2002– 2004, was a total of £18 million - the equivalent additional funding would have given us £400,000. No additional money was allocated in NI. The second, 'Choosing Health' allocated a further £145 million and to date no additional funding has been allocated in N. Ireland. The Department of Health is currently making a further draft of its Sexual Health Promotion Strategy to which there is likely to be little money attached for service. As with pleas to the Board and the Department the answer is always the same 'You are not a priority.' I'm sorry - I think the sexual health of our community is a priority. Our big problem of course is that we have no patient voice to shift this institutional prejudice!

TABLE III

NATSALS surveys 1990 & 2000 (ref 21)

	Gender	1990	2000
Lifetime partners	Female	3.7	6.5
	Male	8.6	12.7
Attitude to premarital Sexual Intercourse (not wrong)	Female	79.3%	84.4%
	Male	84.4%	85.2%

So ladies and gentlemen before I reach my conclusion there is just a little bit more information I would like to provide you with. This comes from The National Sexual Attitudes and Lifestyle Survey (NATSALS) carried out in England[21]. This was originally a government project but vetoed by Mrs Thatcher as too intrusive. It was carried out independently in 1990 and repeated in 2000 - a nationwide randomly selected survey of over 13,000 respondents in 1990 and over 11,000 in 2000. It has provided us with invaluable epidemiological information and I will focus on two items. Firstly the number of lifetime sex partners had risen from, in 1990, females reporting a mean of 3.7 and males 8.6, to, in 2000, 6.5 and 12.7 respectively. Peoples' attitude as to whether sexual intercourse (SI) before marriage was wrong had changed little with, in 2000, 85% of men and women saying it was not wrong or rarely wrong (table III). With this reflection of national attitudes plus the information I have already given you, let us not look for naïve solutions such as total abstinence campaigns. As President Clinton declared at the World AIDS conference they just don't work. At the end of the day education, understanding and investment in services are the ways forward for us. I cannot possibly do justice to such a huge topic now but I would point out that the Medical Curriculum of this University does not I feel provide adequate teaching of sexual health issues to enable our young doctors to provide informed and unprejudiced care for their patients.

Fig 8. 16th Century etching depicting physicians examining urine in the diagnostic process

CONCLUSION.

Ladies and gentlemen I am deeply aware of the honour accorded to me by the Staff of this great institution by asking me to give the Oration of 2006. When I entered my specialty I guess it could have been portrayed by this depiction of medieval physicians (fig 8) but the last three decades has seen us back at the forefront of medical research and ethical thinking. As with art I hope I have challenged some of your views and perhaps even offended some. I would only say in closing that sexual health is a vastly undervalued aspect of our lives and please let us not consider it in terms of banalities, clichés or worse still, personal prejudice.

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